

## **DISCOVERING PERMUTATION PATTERNS**

### **Abstract of the Disclosure**

A new portion of an input string is selected. The input string has a number 5 of characters from an alphabet. The new portion differs from a previously selected portion of the input string by one or more new characters of the input string. One or more values are determined for how many of the one or more new characters are in the portion of the input string. It is determined which, if any, names in a number of sets of names have changed by selection of the new portion. The number of sets have a first set and a number 10 of additional sets, wherein the first set corresponds to all of the characters in the alphabet and to values of how many of the characters of the alphabet are in the previously selected portion. The values are names for the first set. Each additional set comprises names corresponding to selected pairs of names from a single other set. Changes in the names are used to determine the permutation patterns. Each name generally corresponds to a 15 permutation pattern and permutation patterns may be found by keeping track of changes to the names. When a name is changed greater than or equal to a predetermined value, the permutation pattern corresponding to the name may be output.